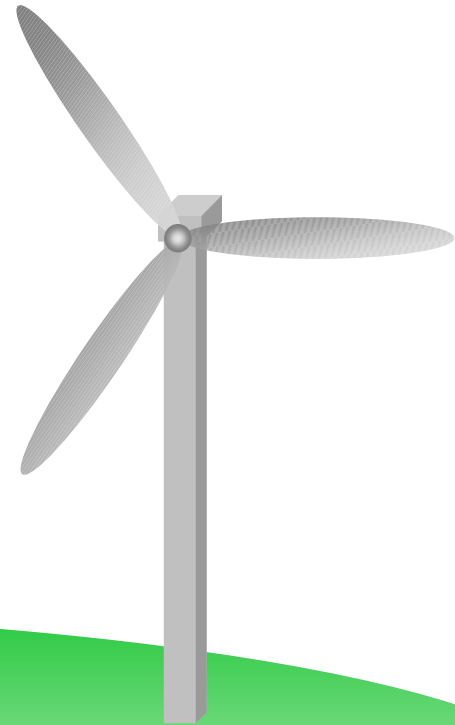
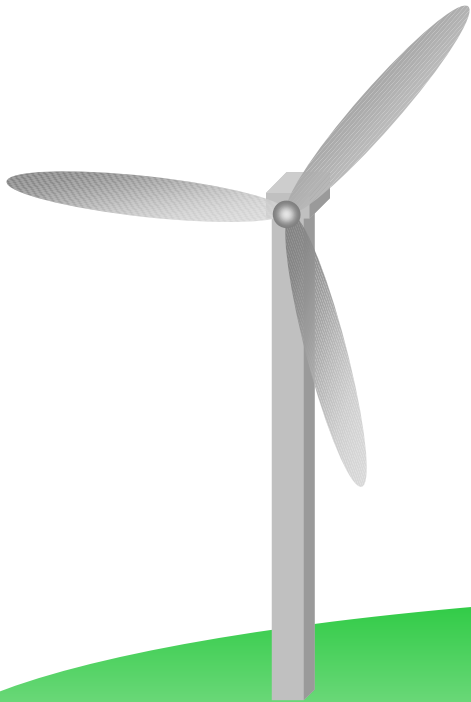




PJM Regional Transmission Expansion Planning Process

**Kenneth S. Seiler
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PJM Interconnection, L.L.C.
September 23, 2003**





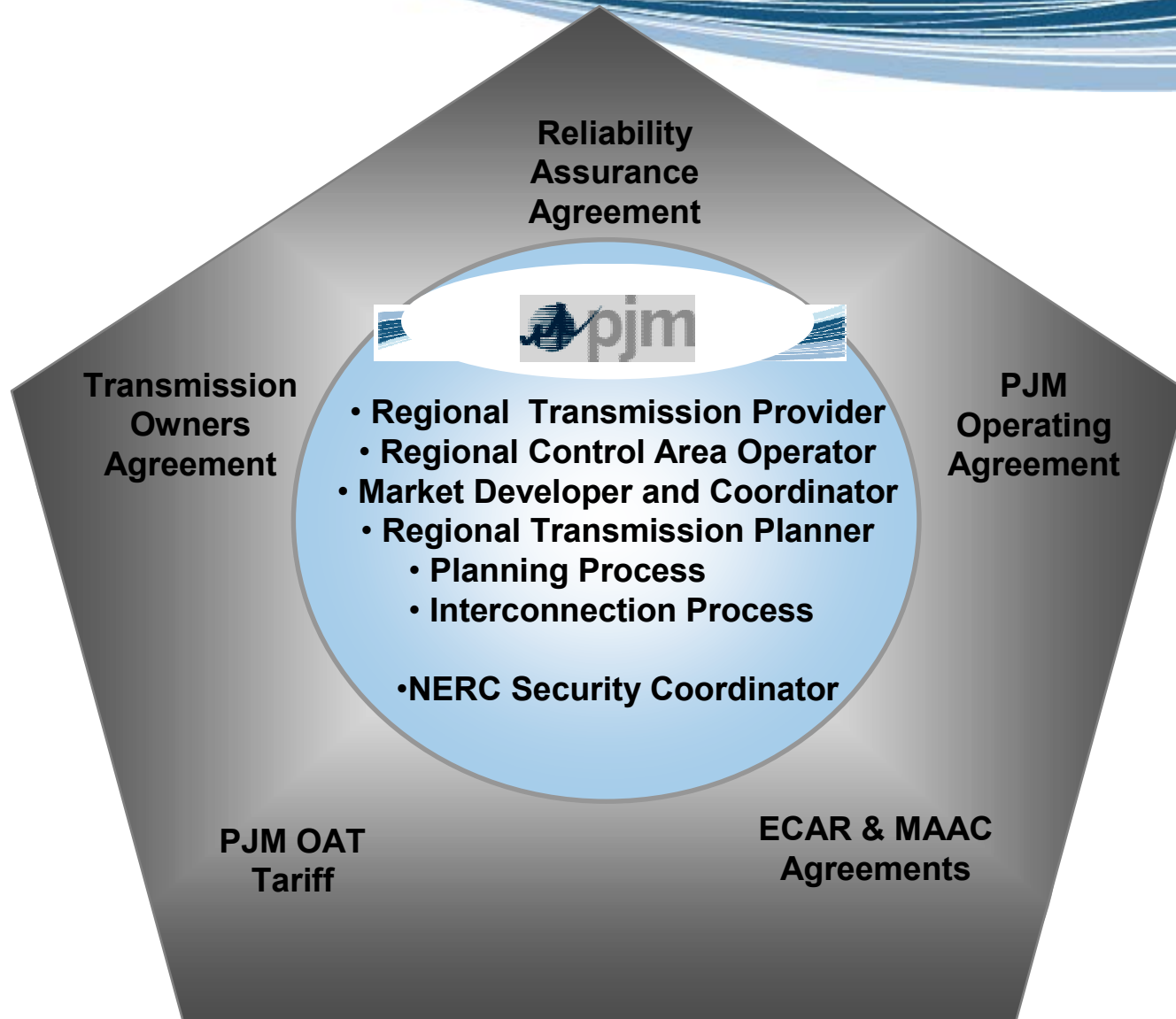
- ⌞ Overview
- ⌞ RTEP
- ⌞ PJM Wind Projects
- ⌞ Capacity Credit Overview
- ⌞ Summary

- ⌞ FERC Approved Process
- ⌞ RTEP is a fully integrated process including:
 - ⌞ On-going Adequacy Assessments
 - ⌞ On-going Reliability Assessments
- ⌞ Transmission Expansion Advisory Committee (TEAC)
- ⌞ Expansion recommendations provided to PJM Board for approval



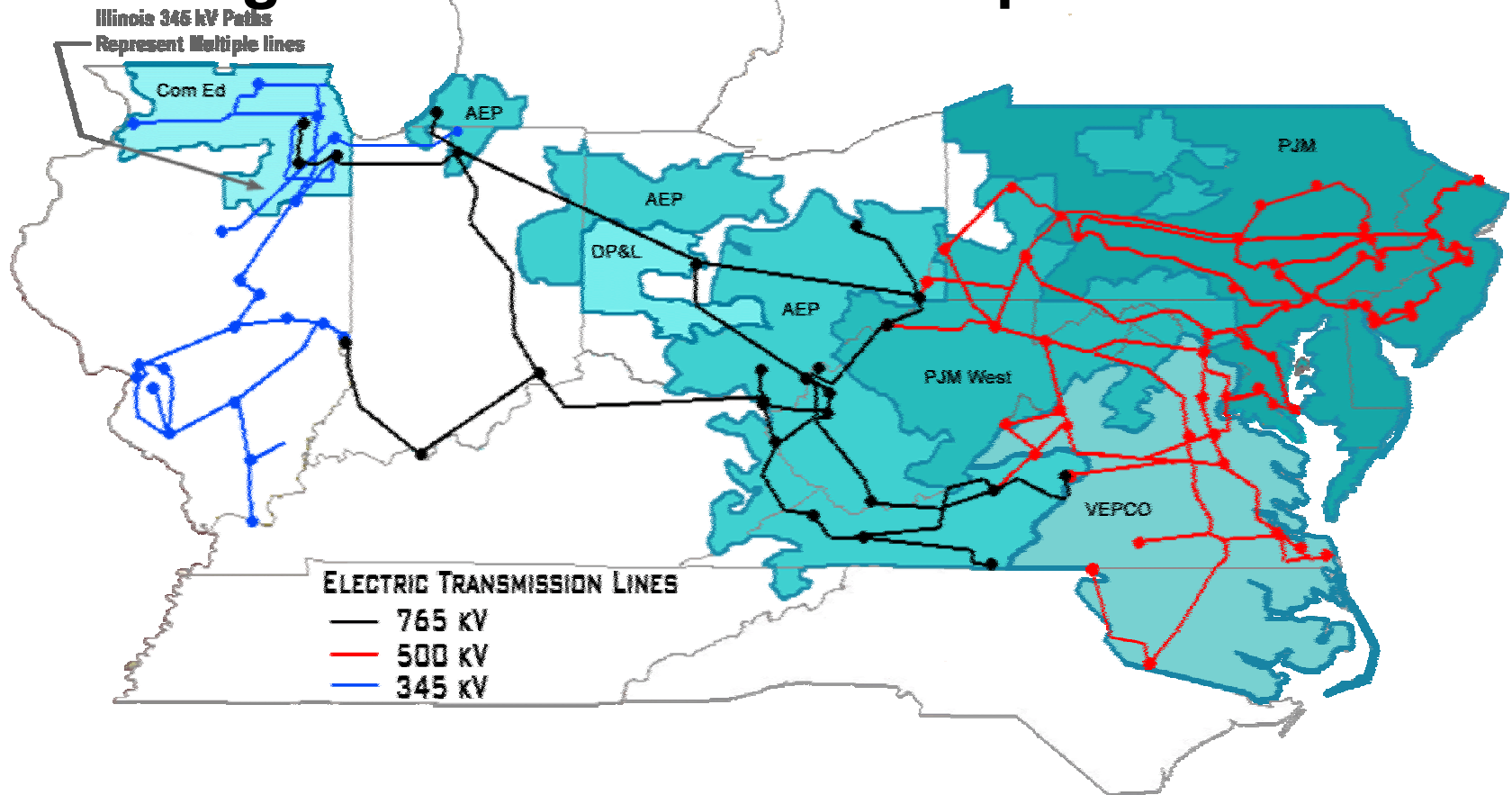


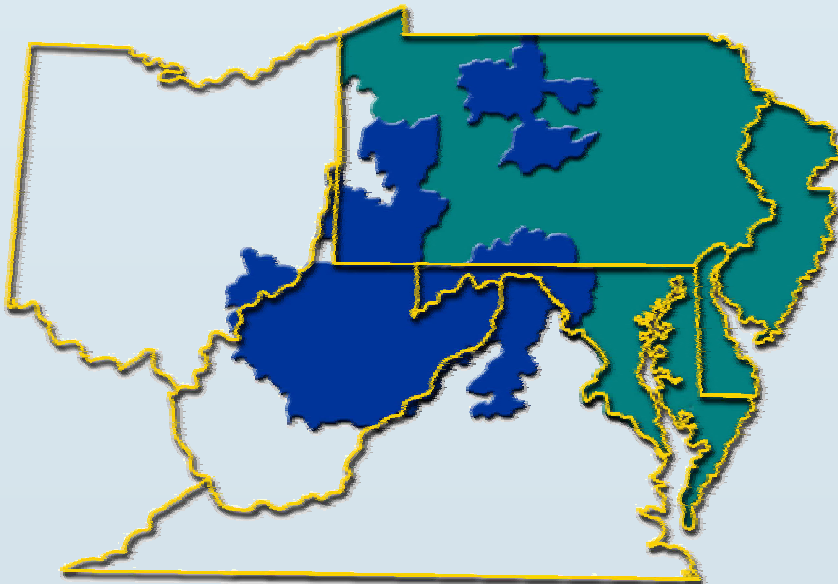
- ⌞ All Requests Treated Equally
- ⌞ Decisions in Equivalent Time Period result in Comparable Treatment
- ⌞ Reliable Transmission System
- ⌞ Robust Competitive Market
- ⌞ Information Provided On A Timely Basis
 - ⌞ Resource Adequacy Determination
 - ⌞ Ability of the Transmission System to Deliver Energy
 - ⌞ Market Price Signals--Energy, Capacity, Ancillary Services



Regional Transmission Expansion Plan

Backbone Transmission Systems





	<u>PJM / PJM West</u>
Generating Units	660
Generation Capacity	77,250 MW
Peak Load	61,967 MW
Annual Energy	298,011 GWh
Transmission Miles	13,000
Area (Square Miles)	79,000
Customers	11 Million
Population Served	25.1 Million
States (+ D.C.)	8

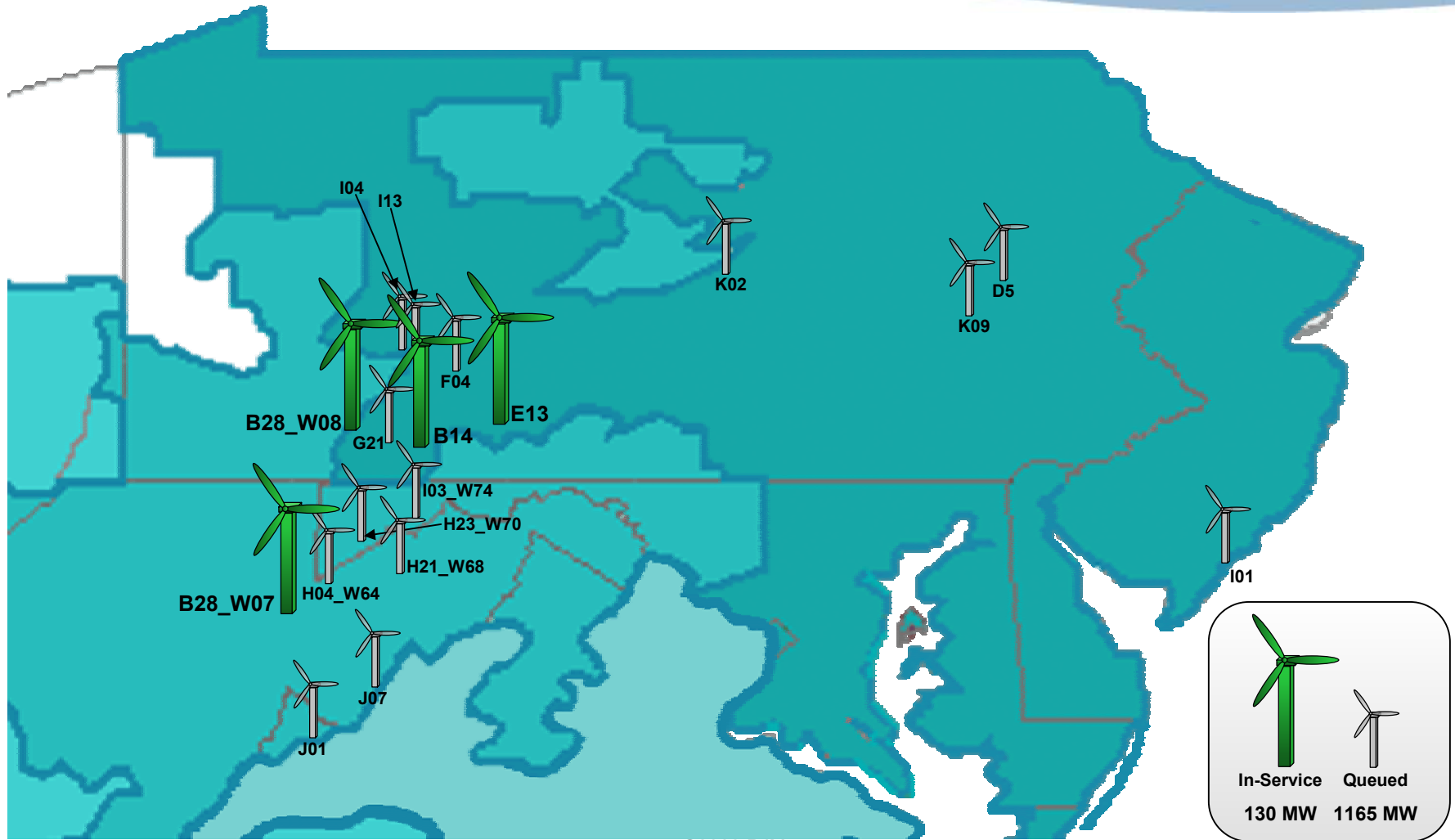
PJM Wind Projects



What has PJM done to facilitate Wind Energy Projects?



1. Expedited procedures for Generators that are less than 10MW
2. Collaborated with Wind Energy Experts
3. Formed Intermittent Capacity Resource Working Group
4. Offers Capacity Credits for Wind Power



A photograph of several large offshore wind turbines in the ocean. The turbines are white with three blades each, and they are mounted on dark, rectangular platforms. The sky is a clear, pale blue, and the water is a darker blue. The perspective is from a low angle, looking up at the turbines.

Capacity Market & Capacity Credit Overview

- ▣ Provides economic incentive for generation asset development
- ▣ Obligations of load servers to secure capacity for their customers' needs
- ▣ Generators participate based on their capacity value
- ▣ Prior to June 2003 there were no provisions for wind generators to participate

- ⌞ Intermittent Capacity Resources Working Group
 - ⌞ Created November 2002, part of RAA-RC
 - ⌞ Goal: Develop methodology to allow these generators to participate in PJM Capacity Markets
 - ⌞ Address unique challenges of developing a means to calculate capacity value for generation assets that cannot be dispatched at will e.g. wind, photovoltaic
 - ⌞ Capacity credit calculation approved April '03
 - ⌞ Implementation June '03
 - ⌞ Proactively working with owners/operators/developers of in-service and planned wind farms to facilitate qualification for participation in capacity market

- ⌞ PJM's Wind Capacity Credits
 - ⌞ Based on real operating data when available
 - ⌞ Three year rolling average of hourly outputs:
 - ⌞ For the 4 hours ending 3 to 6 PM...
 - ⌞ On the summer days of June 1 to August 31 Incl.
 - ⌞ Wind "Class Average"
 - ⌞ Used for each year operating data is unavailable
 - ⌞ Equals 20% of Net Capability (Nameplate less Station load)
 - ⌞ Replaced by actual data in rolling average calculation as operating data becomes available

- ↖ The market will provide many solutions that must be integrated through the Regional Transmission Expansion Plan.
 - ↖ Generation Solutions
 - ↖ Strategically Sited Generation Projects
 - ↖ Distributed Resources
 - ↖ Load Solutions
 - ↖ Active Load Management/Demand-Side Resources
 - ↖ Distributed Resources
 - ↖ Transmission Solutions
 - ↖ Advanced Technology Options
 - ↖ Merchant Transmission
- ↖ Traditional expansion/enhancement alternatives will also be identified through the Plan.



If You Have Any Questions

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